

remarks

Remarks of the applicant are preceded by related comments of the examiner, shown in small bold type.

**Applicant's election without traverse of Group I, claims 1-3, 8-11, and 27 in Paper No. 7 is acknowledged. Claims 4-7 and 12-26 are withdrawn from further consideration.**

The applicant has canceled the withdrawn claims without prejudice or disclaimer.

**2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.**

Without conceding the examiner's comment, the applicant has changed the title.

**Claims 1-3, 8-11, and 27 are rejected under 35 U.S.C. 101 ...**

**For a claim to be statutory under 35 USC 101 the following two conditions must be met: 1) In the claim, the practical application of an algorithm or idea result in a useful, concrete, tangible result, AND 2) The claim provides a limitation in the technological art that enables a useful, concrete, tangible result.**

Without conceding the examiner's position, the applicant has amended claim 1. Claim 1 states an invention that satisfies section 101 of the patent statute.

The method recited in claim 1 yields an extremely useful, concrete, tangible result, by making available to investors within a time frame that is useful to them, information about a probability distribution of the price of the asset at a future time.

For an investor, nothing could be more useful than knowing the actual price that an asset would bear at a future time. Armed with that information, the investor would be able to make profitable investment decisions. Also highly useful to the investor would be timely information about an implied probability distribution of the price of the asset at the future time. It is that result that is contemplated by the claim. Claim 1 also recites a practical application of that result, namely by making the information available within a time frame that is useful to investors.

In addition, claim 1 provides limitations (a "machine-based" method, and "by machine, performing computations to derive ...") that are in the technological art and that enable the useful, concrete, tangible result (described above).

Similar amendments and arguments apply to the other rejected claims.

5. Claims 1-3, 8-11, and 27 are rejected under 35 U.S.C. 102(e) as being anticipated by Makivic (U.S. 6,061,662).

Makivic teaches claims:

1. A method comprising:

receiving data representing current prices of options on a given asset, deriving from said data an estimate of a corresponding implied probability distribution of the price of said asset at a future time (fig.4 - histogram and real data; 50 - historical server data; col. 18, line 49- col.20, line 12), and

making information about said probability distribution available within a time frame that is useful to investors (abstract).

The applicant disagrees.

Although some of the vocabulary used in Makivic sounds like the words used by the applicant in its patent application, there is almost nothing about Makivic's method that in substance corresponds to the features of the applicant's claim. In fact, Makivic's method seeks a completely different result and reaches the different result in a completely different way.

In the Makivic patent, what is being determined is the price of an option, not the price of an asset that underlies the option. And, in Makivic, it is the current price that is being determined, not the future price. Also, Makivic bases the current price of the option on the historical price of the underlying security, not on the current price.

These distinctions are clear from the abstract of the Makivic patent, which describes "[a] Monte Carlo system and method ... for the pricing of financial instruments such as derivative securities [an option is a derivative security]. A path-integral approach ... relies upon the probability distribution of the complete histories of an underlying security [a stock is an example of an underlying security for a derivative security]" (emphasis supplied) Thus, in Makivic, it is the derivative security that is being priced currently based on probability distributions of the histories of the underlying security.

This is fundamentally different from claim 1, in which the probability distribution of the asset price at a future time is begin derived from the data about current option prices.

Similar arguments apply to all of the other rejected claims.

**27. A method comprising:**

**defining a current value of an option as a quadratic expression that depends on the difference between the current price of the option and the current price of the underlying security, and using Monte Carlo techniques to estimate a probability distribution of the value at a future time T of a portfolio that includes the option (Abstract).**

As with claim 1, the Makivic patent neither describes nor suggests anything relevant to the features of claim 27. Makivic does not define an option value based on a current option price or on a current price of an underlying security. Nor does Makivic estimate a probability distribution of any value at a future time T, let alone a value of a portfolio that includes an option.

The fact that the applicant has addressed a comment of the examiner does not mean that the applicant concedes any other comment of the examiner. The fact that the applicant has given reasons why a claim is patentable does not mean that the applicant concedes that there are not other good reasons for he patentability of that claim or other claims.

Applicant : Philip A. Cooper et al.  
Serial No. : 09/641,589  
Filed : August 18, 2000  
Page : 9 of 9

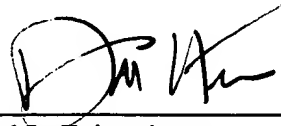
Attorney's Docket No.: 11910-002001

Enclosed is a \$475.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050, referencing 11910-002001.

Respectfully submitted,

Date: \_\_\_\_\_

9/13/4



\_\_\_\_\_  
David L. Feigenbaum  
Reg. No. 30,378

Fish & Richardson P.C.  
225 Franklin Street  
Boston, MA 02110-2804  
Telephone: (617) 542-5070  
Facsimile: (617) 542-8906